Closing the Knowledge Gap

1997-12-22

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When the Imaginary is All Too Real

Imagine a world in which a head of state waits days for information that a Canadian grade-school student can get in seconds. Or one in which a resident of a remote African village can receive relevant news daily via the Internet instead of having to wait weeks for the local post office to deliver letters and newspapers.

Far from being make-believe, both scenarios are an emerging reality in the developing world. The paradox of the information age is that information and communication technologies (ICTs) present both dangers and opportunities. While part of humanity cruises the information superhighway, many remain isolated, equipped only with yesterday's technology and a limited means of access. But a number of IDRC projects show how the widening information gap between North and South, rich and poor, can be bridged with the help of the very technologies that have created it.

This is being demonstrated in Mongolia, a pilot site for IDRC's Pan Asia Networking (PAN) program. The PAN program is funding communications infrastructure and research projects in developing countries across Asia. This infrastructure will allow individuals, development institutions, and other organizations to share information among themselves and with the rest of the world. It also promotes the development of content-based subnetworks in line with the Centre's research priorities.

At first glance, Mongolia may seem an odd choice as a venue to test a new program. Deteriorating or nonexistent infrastructure, a tightly controlled media, and a one-party political system have isolated the country from much of the world. But as Mongolia makes the difficult transition to a market economy, its need for information resources and for renewed links with neighbouring countries will increase. PAN planners also had an opportunity to study some of the technical challenges they were likely to encounter in other countries in the region. Another reason for choosing Mongolia was that IDRC's local partner in that country, Datacom, had the expertise to tackle the demanding technical challenges needed to create a local Internet service provider.

Already, policymakers in all sectors have greater access to the data they need to make more informed decisions. Surenguin Badral, foreign policy adviser to the Prime Minister of Mongolia, says the Internet helps the government in "communicating with the country people and getting information from remote places."

In reviewing the PAN program, Britain's The Geographical Magazine states: "For a country whose economy is still recovering from the collapse of the Soviet Union, and whose basic utilities (including power and telephones) are severely run-down, the fact that Mongolia has any Internet infrastructure at all is impressive.... In fact, its success is now being used as a model for other developing countries in Asia."

Replicating Success

Following the Mongolia model, PAN is breaking the isolation facing researchers, policymakers, and business and community leaders in other Asian countries. In these countries, IDRC uses its experience in computer networking to help establish an Internet service. Training local staff then fills the knowledge gap needed to keep the system running. As it did in Mongolia, IDRC works in partnerships with local groups from the private, public, and nongovernmental sectors so that they may serve as "hosts" for the national networks.

Some hosts are documentation centres or other groups formerly supported by IDRC. In Bangladesh, the role is being played by Grameen, the world-famous grassroots bank with 14 000 workers and 2 million borrowers in 35 500 villages. Among the services supported under the PAN program is a "telecottage," where persons without computers can go to obtain the network services. The technology and the material will be tailored to meet the needs of Grameen's clients, many of whom have had little or no formal education. Grameen is also helping to meet one of PAN's objectives: gender equity. Women, 95% of Grameen's borrowers, will be prominent among PAN users in Bangladesh.

Laos has also benefitted from the PAN program. In mid-1996, international e-mail and Internet services were launched. Those benefiting included agricultural researchers, local journalists, a travel agency, computer resellers, and a husband-and-wife legal team consulting on international legal issues.

Fees and user charges, project consultancies, and funding from other agencies will help ensure a long and healthy life for PAN. Canadian researchers and NGOs with an interest in Asia will in the future have easier access to information on that region. Canadian businesses will find it easier to sell to their Asian counterparts as information flow becomes easier.

After its successful start in Asia, the PAN program is now moving into other regions of the world. Visit the PAN website at http://www.PanAsia.org.sg/.

An Early Start for IDRC

PAN is the latest in a long series of information and communication initiatives IDRC has supported since its inception. The Centre's creators were among the first to recognize what later became commonplace knowledge: whereas poverty in the past meant lack of access to capital, in the late 20th century it means a shortage in the means of communication, in the access to information, and in the acquisition of knowledge. The act that established IDRC provides for it to "establish, maintain, and operate information and data centres and facilities for research and other activities." IDRC began by creating libraries and documentation centres where none existed. As technologies developed, these were computerized. Geographic information systems, global positioning systems, multimedia, and satellite technology have since been added to the Centre's information work. IDRC played the lead role in supporting networking activities in many developing countries long before e-mail was even being used in Canada.

A 21st Century Vision

While the global information revolution can widen the gap between North and South in previously unimagined ways, many in the South are creating a different vision. Theirs is a vision of how that revolution can transform their lives, hasten the development process, and equip them for life in the era of economic globalization. The information and communication sector, they recognize, is one

in which, despite poor infrastructure, small but innovative groups can move directly into the information technology of the 21st century.

This is happening in communities from Kenya to Sierra Leone and from southern to northern Africa because of many local initiatives and now as a result of "Acacia," a new and ambitious 5- to 25-year program developed by IDRC.

Even before Acacia, Africans were using ICTs in novel, entrepreneurial ways. In the Sierra Leone capital of Freetown, its peace disrupted by factional strife in neighbouring countries, a group of youth manage an e-mail server. This server supports both local and international traffic and gives Sierra Leonese a window to the information age. Clients include an emergency relief NGO, a maternity clinic, an X-ray clinic, and a family physician. The youth group, all of whose members are now employed, also established a small organization to help with similar networks in Sierra Leone's agricultural community.

In Tanzania, the monthly telecommunications bill of a small importexport company dropped from $500 to $45 through use of the Internet. Craftspeople in Niger, a farming cooperative in Kenya and ecotourism resorts in South Africa are all using the Internet to reach international markets. A service called Students On-Line enables over 6 000 correspondence- course students from all over Africa to use e-mail and the World Wide Web to obtain advice and reading materials from their tutors at the University of South Africa. Over 40 000 students use the service to obtain their results after a recent examination.

HealthNet, an IDRC-funded, satellite-based communications program, has helped scientists at the Navrongo Health Research Centre in northern Ghana reduce child deaths. Navrongo has become a first-rate research centre despite being located in an area with poor electrical and telecommunications facilities. Navrongo is an example of technological leapfrogging in which traditional technologies like telephone systems are bypassed to meet local needs for information resources. This is a cost-effective and efficient alternative. In Kenya, according to Dr Fred Bukachi, who runs HealthNet in that country, at least two lives were saved because HealthNet enabled local doctors to obtain help from colleagues in Britain and the United States.

IDRC is also experimenting with low-cost telecentres to meet the information needs of poor city dwellers in Colombia and indigenous communities in Ecuador. Another major IDRC initiative will link the Centre's research partners worldwide. This project will help all IDRC program initiatives to meet their objectives with the use of the latest technologies. These could range from e-mail to computer conferencing on the World Wide Web.

Efforts to put ICTs at the disposal of poor countries and communities are challenging. But they are a natural continuation of IDRC's experience of using information in support of research and development and in working toward empowerment through knowledge.